

Chapter 25 - **Flooring**

Contents

- Chapter 25 - Flooring 25-1
- Timing & Prerequisites 25-2
- Preparation 25-3
- Clean Up the Job Site** 25-3
- Clean and Sand the Sub-Flooring** 25-3
- Clean the Stairs** 25-3
- Mark and Tape the Floor HVAC Ducts** 25-3
- Vinyl Plank Flooring (Volunteers) 25-4
- Acclimate the Flooring** 25-4
- Plan your work** 25-5
- Mannington Solid Locking System** 25-6
- Installing the Underlayment** 25-7
- Install Laminate Flooring** 25-7
- Transition Strips 25-12
- T-Molding for Vinyl Planks/Tiles to Vinyl Planks/Tiles Transitions (Volunteers)** 25-12
- Multi-Purpose Reducer for Vinyl Planks to lower surfaces Transitions (Volunteers)** 25-12
- Transition at top of Basement Stairs (Volunteers)** 25-12
- Transition from Vinyl Planks/Tiles to Carpeting (Contractor)** 25-13
- Finish the Flooring Installation 25-14
- Floor Registers 25-14
- Quality Assurance Checklist 25-14
- Carpeting (Contractor) 25-15
- Install the Carpet Shield (Volunteers)** 25-15
- Acura Max Installation Guidelines 25-16

Things to Consider

- **Floors in common living areas (living room, kitchen, dining area and bathrooms) will be covered with vinyl plank flooring. Partner families are given the option of vinyl plank flooring or carpet in the bedrooms.**
- **To protect the vinyl plank flooring, it is recommended to delay its installation until after the cabinets, doors and trim are installed and the contractors are done with the mechanicals.**

Timing & Prerequisites

- The floors all be sanded prior to painting.
- The vinyl planking will be installed after the walls have been painted and cabinets are set.
- The carpeting will be installed after the construction work is complete, the construction materials and tools removed, and just before the Dedication.
- The House/Project Lead will work with the Construction Superintendent to coordinate these volunteer activities.

Materials Needed	
Adura© Vinyl Tiles & Planks	Carpeting
Building Felt Vinyl Flooring Transition Strips Shop Vac Bags Floor Sander Belts Belt Sander Belts Rags	Carpet Shield

Phase Specific Tools Needed
<ul style="list-style-type: none"> ○ Belt Sander with Medium-grit Belts ○ Floor Sander ○ 3” Wide Spackle Knife ○ Flooring Spacers ○ Flooring Wedges ○ Guillotine Flooring Cutter ○ Shop Vac ○ Oscillating Cutting Tool ○ Dead-Blow Hammer ○ Heat Gun

Preparation

Critical Issues

- ◆ The vinyl planking will be installed after the walls have been painted and cabinets are set.
- ◆ Always start with a clean job site.
- ◆ Limit access to the house while the flooring is being installed.

Clean Up the Job Site

- Remove all construction materials from the house. No other construction activities can be performed while painting the walls and installing the flooring.
- Remove all debris from the house.
- Vacuum out the air ducts.
- Set up barrels for collecting boxes and shipping materials from the flooring.

Clean and Sand the Sub-Flooring

- Remove any spackle, mud, or other adhesives from the sub-flooring using a putty knife. Flooring must be installed over a smooth surface.
- Set any nails/screws which are raised up.
- Sand the seams and any high spots in the floor to a flat and smooth surface using a floor sander and a belt sander.
- Level uneven surfaces and fill large cracks and voids with leveling and patching compound.
- Sweep and vacuum the floor. All dust must be removed prior to installation.

Clean the Stairs

- Wash off any mud which may have built up over time on the stairs and flooring.
- Scrape off any drywall and/or paint from the stairs.

Mark and Tape the Floor HVAC Ducts

- On the wall adjacent to the floor HVAC ducts, install horizontally an 8” – 10” piece of painter’s tape. After the flooring is complete, check all taped areas to ensure all floor duct openings have been cut out and a floor register has been installed.
- Ensure the floor HVAC ducts have been taped to the sub-flooring.

Vinyl Plank Flooring (Volunteers)

Critical Issues

- The flooring must not be installed under the kitchen or bathroom cabinets.
- The flooring will extend under the dishwasher, range, and refrigerator.
- Carefully inspect each plank for defects prior to installation, and do not install damaged planks.
- After installing each row of flooring, check the joints to ensure that they are flush across the tops. If any of the pieces are raised, disassemble the row and clean out the joints and the area below the plank.
- The flooring will stop at each room entry room and a transition strip installed. Flooring will extend into closets and pantries.

Adura® PLANK

Adura® planks are designed to be installed as a “floating” floor. Do not secure the planks to the subfloor. Always undercut wood door jambs. Do not install cabinets or kitchen islands on top of Adura® planks. Use care when installing wall moldings and transition strips to not fasten through the product. Adura® is an angle/angle installation which provides supreme joint strength.

SPECIFICATIONS:

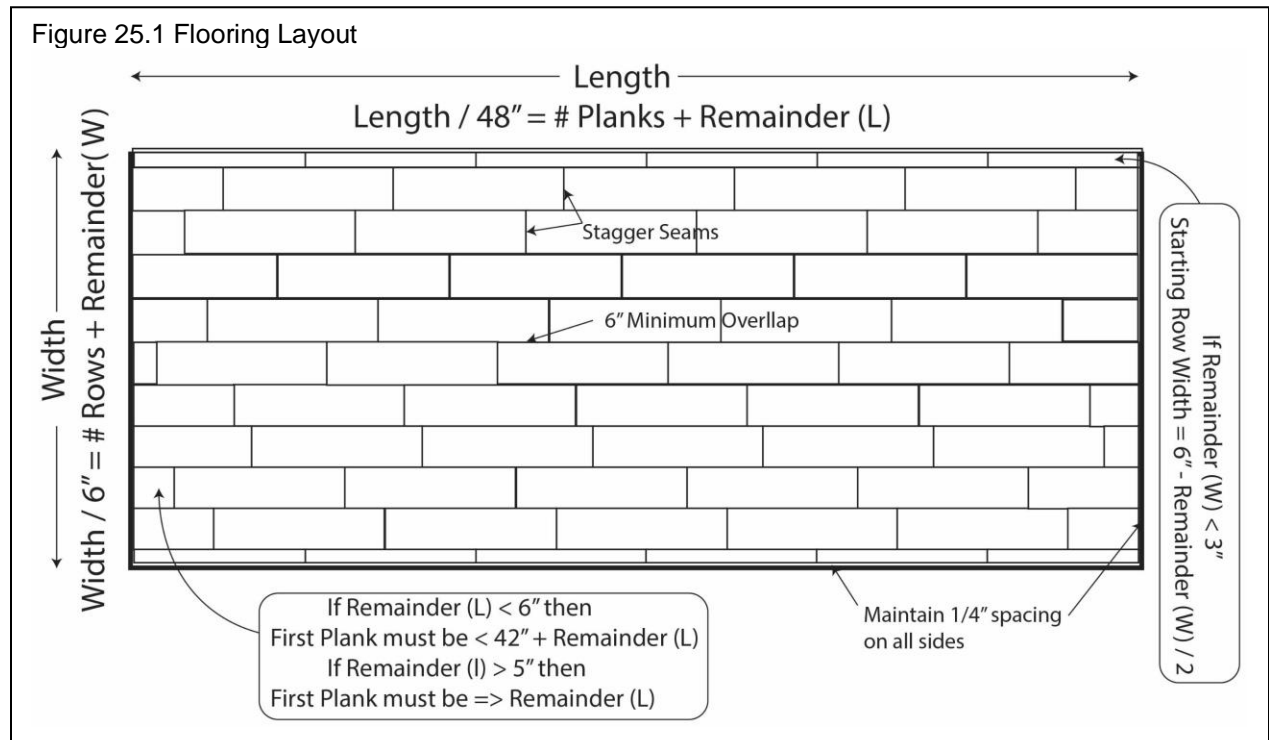
- **Sizes: Adura® Planks:** 7" x 48"
Adura® Tiles: 16" x 16"
- **Edge Style:** Micro-bevel
- **Thickness:** .315" (8mm)
- **Scratch Resistant:** Yes
- **Warranty:** Limited Lifetime Residential

Acclimate the Flooring

- Correct acclimation prevents the flooring from expanding and contracting excessively after installation.
- Move the flooring to the job site and allow to acclimate at least 48 hours prior to installation.
- Spread unopened cartons no more than 3 cartons high and at least 4 inches apart. Cartons should be stacked away from heating and cooling ducts and direct sunlight.
- Maintain a constant room temperature between 65°F and 85°F before, during and after installation.
- Maintain ambient relative humidity between 35% and 85% at all times.

Plan your work

- Do not start laying the flooring until the kitchen and bathroom cabinets have been installed and the house has been cleaned.
- The flooring will extend under the dishwasher, range, and refrigerator.
- Select your starting wall. Normally you start with the longest wall in the room or hall, or a wall running towards a window or natural source of light. Factors to consider are:
 - The seams in the flooring are less obvious when the seams run toward the greatest source of natural light.
 - Seams are less visible when entering the house if the floor runs toward the doors.
 - A narrow room will look wider if the seams run across the room.
- Transition strips will be used at the interior doorways into the rooms. Mark their locations.

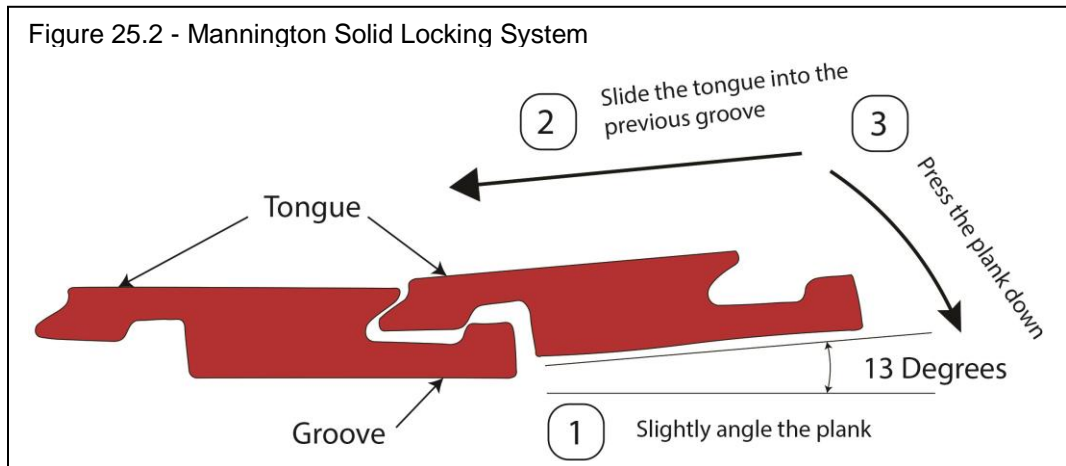


Plank Layout (See figure 25.1).

1. Install the long dimension of the planks parallel to the long dimension of the work area.
2. Stagger the seams in the rows avoiding repeating patterns and ensuring the seams in adjoining rows at staggered by at least 6".
3. It is important to balance the layout of the plank format. Proper planning and layout will prevent narrow plank widths at wall junctures. Determine layout to prevent having less than half a plank width or very short length pieces.
 - a. **Width:** Divide the width of the room in inches by 6" to determine the number of full rows needed. If the remainder is less than 3", calculate the width of the first row as: 6" – (the remainder / 2).

- b. **Length:** Divide the length on the room in inches by 48” to determine the number of full planks needed per row. If the remainder is less than 6, the length of the first plank in each row must be less than 42” plus the remainder. If the remainder is greater than 5, the length of the first plank in each row must be equal to or greater than the remainder.

Mannington Solid Locking System



- Lock the planks together by (See figure 25.2):
 - Insert the tongue of the new plank into the groove of the previous plank. Allowing the tongue to rest on the groove ledge.
 - Slightly raise the new plank to a low angle.
 - Inserting the tongue of the new plank into the groove of the previous plank. Finesse and slight pressure may be required to seat the tongue into the groove. Be careful not to bend the corner of the plank.
 - Press the groove end of the new plank down. There will be a slight snap as the two planks lock together.
 - Lightly tapping the groove edge with a tapping block should close the gap between the planks.
 - To close gaps which appear several rows back, attach a scrap piece of flooring to the grooved edge of the outside piece; lay the tapping block against the scrap piece; then strike the tapping block with a hammer. (see figure 25.3).

Do not flat install Adura® Max planks.

- Cutting the Vinyl Planks
 - Score the planks with a knife to create a clean edge. Use a straight edge and utility knife to score across the plank. Pull the knife along a straight edge making two (2) passes. Applying heat with a heat gun to the area to be cut can make it easier to score and snap.



- **Note:** Holding the heat gun too close will damage the vinyl. If you hold it on one place for too long, you are going to discolor the material. Use brisk action to move the heater back and forth until you have made the vinyl more flexible.
- Snap the plank by bending the plank along the scored mark, using your knee as leverage.
- Planks can also be cut to length with a guillotine type cutter, miter saw, or snips. (see figure 25.4).



Installing the Underlayment

- Install the strips of building felt underneath the flooring to create a clean surface for installing the flooring.
- Cut strips of the building felt to fit across the area being covered with flooring. A sharp knife will be required.
- Place the strips over the sub-flooring. Do not overlap the strips. Install each length of underlayment row-by-row as the installation of the planks progresses. At the edges, cut off any excess.

Install Laminate Flooring

Critical Issues

- It is important to know that all structures and building materials expand and contract. This includes vinyl flooring products, for this reason it is recommended to maintain an expansion gap of approximately 1/4" from the wall.
- Avoid "stair stepping" or lining up seams from one row to the next. Stagger the end seam at least 6" to 8".
- The first and last piece of each row must be at least 6" long.
- Mark and score the plank away from the newly installed floor to prevent accidental damage.
- To reduce waste, partial planks measuring over 6 inches may be used to begin and finish each row.
- Carefully cut out the planks to fit around the toilet flange before installing them.
- Leave a 1/4" gap between the flooring and the bathtub.

Install the First Row from a solid wall

- When facing the starting wall, installation will move from left to right, beginning in the left corner.
- Cut the first-row planks to the desired width. If starting the first row with full width planks, cut off the unsupported tongue of the long edge so a clean, solid edge is toward the wall.
- Cut the first plank to length, ensuring the last plank in the row will be at least 6" long (see Plank Layout above). If starting the first row with a full-length plank, cut off the unsupported tongue on the short edge so a solid edge is toward the wall.
- Position the first plank so that both groove sides are exposed.
- Position the first plank in the left-hand corner of the starting wall. Maintain ¼" gaps from the starting walls.
- Keep a ¼" gap from baseboard to allow for expansion of the planks. The expansion space will allow the floating floor to expand and contract freely after installation.
- Continuing installing full pieces across the wall. Install as many full-length planks across the starting wall as will fit.
 - Hold the new piece up at a slight angle along its short edge
 - Insert the short edge tongue into the previously installed plank end groove, aligning the plank to the plank in the previous.
 - Lower it, locking it into the previous piece.
- Cut the last plank in the first row to fit between the last full piece and the side wall baseboard. Cut the piece from the left side of a plank. (The right side will be used to start the next row).

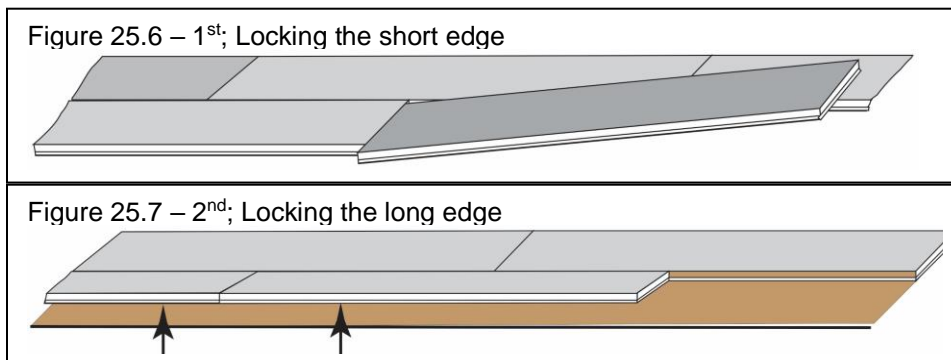
Install Flooring Spacers along the Starting Wall



- Insert flooring spacers between the first row of planks and the starting row. Place one spacer every 4 to 6 feet along the wall. These spacers will hold the planks at the desired distance from the wall while the remaining rows are installed. (See figure 25.5).
- Adjust the width of the spacers by turning the adjustment knobs on top until the planks are in alignment and at the desired spacing from the wall.

Install the Second Row

- If the leftover piece from the end of the first row, measures at least 6” and meets the length requirement as defined above in Plank Layout, it may be used as-is to begin the second row. Otherwise, select a new plank and cut as needed.
- Install the plank into the first row by:
 - angling it slightly along its long edge
 - insert the long edge tongue into the long edge groove of the previous row.
 - lower it, snapping it into place.
- Install the remaining planks by: (see figures 25.6 & 25.7).
 - holding them up at a slight angle along their short edge
 - insert the short edge tongue into the previously installed plank end groove, aligning the plank so the long side tongue tip is positioned just over the groove lip of the plank in the previous row.
 - lower it, locking it into the previous piece.
 - Now, raise both the current and previous piece to a slight angle
 - Working from the end seam, slide the long tongue into the groove of the adjoining plank. The short tongue of the new piece should slide through the short groove and align with the previous piece. Finesse and slight pressure is required to seat the tongue into the groove. You will feel the tongue lock into the groove.
 - Lower both pieces and feel them lock into place.
 - Light pressure with a tapping block should seat them together.
- Work across the length of the room installing planks. The planks in the first row may need adjusting to align the planks in the second row. It is critical to keep these two rows straight and square, as they are the “foundation” for the rest of the installation. Squareness and straightness is key.
- Cut the last plank in the first row to fit approximately 1/4” short of the end wall. Often the remainder of this plank may be used to start the third row.



Install the Remaining Rows

- Continue installing planks, being certain to maintain a random appearance and offset end seams by at least 6” to 8”.
- Maintain a 1/4” expansion space at all fixed vertical surfaces.

- Check to be certain all planks are fully engaged, if slight gapping is noticed, the gap can be tapped closed by using a scrap of flooring and a tapping block.

Install the Last Row

- The final row of planks will be cut to fit along the wall.
- Cut the planks to fit between the baseboard and the previous row.; maintaining the ¼” gap.
- Re-check the required width of each plank as the wall may not be exactly parallel to the flooring.
Continue to observe the suggested staggering method for the last row of planks.

Install the Rows under Door Jambs & Casings

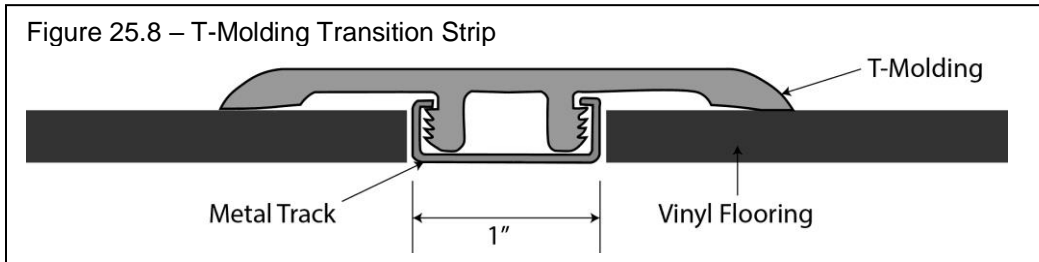
- The flooring for each room will terminate at the doorways with a transition strip. The transition strip should be installed just below where the door will be when it is closed. It is best if one edge of the metal track aligns with the door stop molding.
- Mark the location for the transition strip metal track. The metal track is 1” wide.
- Using a scrap piece of flooring, test the clearance under the door jamb and casing. The flooring should slide under the jamb smoothly.
- Notch pieces of flooring to fit into the doorway, ½” under the jamb and casing and up to with 1/8” of the transition strip metal track. Leave room for expansion.
- When fitting around obstacles or into irregular spaces, Adura® Max can be cut easily and cleanly using a multi tool or jigsaw.
- It is often beneficial to make a cardboard template of the area and transfer this pattern to the plank.
- If the long edge of the flooring will be extending into the doorway, ensure the row is laid out so there will be a seam in the doorway. This will allow the flooring to be slid under the casings.
- To install the flooring use one of the two following options:
 - 1) Install the flooring flat
 - Lock the long edge of the newly cut piece into the long edge of the previous row.
 - Use a tapping block to slide the new piece under the jamb.
 - Continue tapping until whatever portion of the short edge is exposed locks into place.
 - 2) Install the flooring with glue (Recommended by manufacturer)
 - Planks must be modified using a small block plane.
 - Remove a thin layer from the groove to allow tongue and groove to be flat fitted while keeping the integrity of the tongue and groove.
 - After checking the fit apply a thin bead of MSS 20 seam sealer on the groove then slide planks together to seal the joint tight. Wipe any excess sealer off the surface.

- If necessary, a flat pull bar may be used to assist in adjoining the modified planks.

For additional instructions you can view the video:

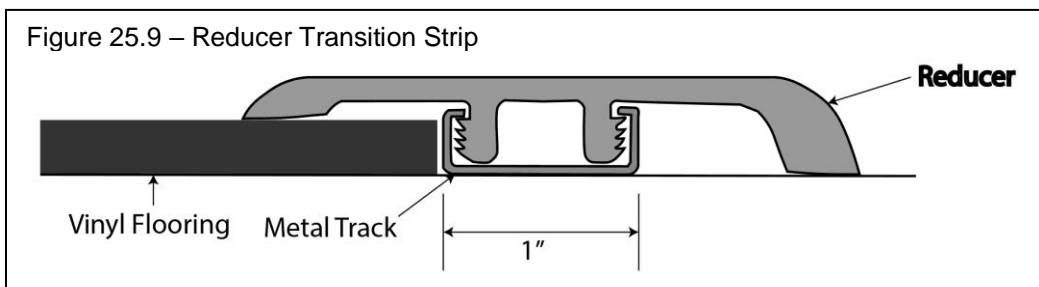


Transition Strips



T-Molding for Vinyl Planks/Tiles to Vinyl Planks/Tiles Transitions (Volunteers)

- T-molding provides a smooth transition between the Adura® and the floor covering in the adjoining room.
- T-molding is designed to floor surfaces that are the same height. (see figure 25.8)
- T-molding come in 94" strips.
- These strips will be installed after the vinyl flooring has been installed.
 1. Cut the metal track to fit between the door jambs using a hacksaw. Leave $\frac{1}{4}$ " gap on each side for expansion.
 2. Install the metal track into the gap between the flooring and secure with $\frac{3}{4}$ " flat head screws.
 3. Cut the T-Molding to fit in the opening. Notch the T-molding to fit around the door stop molding. A multi-tool is useful to notch the T-molding.
 4. Dry-fit the molding to ensure it fits snugly.
 5. Position the T-Molding over the top of the metal track and tap it into the track with a plastic dead-blow hammer.



Multi-Purpose Reducer for Vinyl Planks to lower surfaces Transitions (Volunteers)

- Multi-Purpose Reducers can be installed to transition vinyl planks to un-carpeted areas. (see figure 25.9)
- T-molding comes in 94" strips.
- Install these strips similarly to the T-Molding strips.

Transition at top of Basement Stairs (Volunteers)

- Metal transition strips will be installed to transition from vinyl planks to the uncarpeted basement stairs.
- The metal strips are installed with half of the strip on the flooring and half running down to the stair nosing.

- Cut the strip to fit across the doorway and nail in place with the nails provided with the strip. Ensure the nails are inserted into solid wood nosing.
- These strips will be installed after the vinyl flooring has been installed and after the stairs have been painted.

Transition from Vinyl Planks/Tiles to Carpeting (Contractor)

- Metal transition strips will be installed to transition from carpeting to vinyl. These strips will be installed after the carpeting has been installed and will be installed by the carpeting contractor.

Finish the Flooring Installation

- You may fill the ¼” expansion space around high-moisture areas like tubs, showers and appliances using premium waterproof 100% silicone caulk.
- **Install the HVAC floor registers.**
- After 48 hours, damp mop to remove residual surface dirt

Floor Registers

Safety Issues

- Ensure the vent covers are installed as soon as possible after the flooring. Do not leave the holes uncovered.

1. Seal boot to flooring
2. Apply construction tape across the gap between the flooring and the HVAC boot.
3. Insert the vent cover into the hole.

Quality Assurance Checklist

- Check for damaged planks or tiles.
- Check for bumps in the flooring. If bumps are found, there is likely debris under the flooring, which must be removed.
- Verify all HVAC register ducts have been cut out, taped and registers installed.

Carpeting (Contractor)

The contractor will install the carpet tack strips, padding and carpeting. They will also install thresholds between the carpeting and the vinyl areas.

Install the Carpet Shield (Volunteers)

1. Vacuum the carpeting.
2. Install carpet shield.
3. The carpet shield will be installed wall-to-wall in all carpeted rooms; halls; and stairs.
 - Do not install carpet shield on the vinyl.

Adura Max Installation Guidelines

General Information

1. Adura Max is a completely water proof product.
2. Considerations for under structure or indoor room quality and environment should be given. Mannington will not be responsible for any problems related to mold or mildew due to excess moisture.
3. Acclimating Adura Max flooring is to be considered best work practice, the room and flooring should be allowed to adjust in constant temperatures between 55 F and 90 F for 48 hrs. Prior to and during installation. Temperature of the room should not go below 55 F.
4. Adura Max does not need to be acclimated if HVAC is up and operating and material is within 15 F difference from storage to install.
5. Adura Max should not be exposed to temperatures greater than 140 F.
6. To allow for structure movement for Adura Max to float freely a ¼ inch expansion is recommended within no pinch points.
7. Open room area not to exceed 50 linear ft. in either direction or total or 2500 sq. ft.
8. Install Adura Max only after the jobsite has been cleaned and cleared of other trade apparatus that may damage a finished installation.
9. Mix and install product from several different cartons to achieve maximum variation.
10. All subfloor / underlayment patching must be done with a non-shrinking water resistant high-quality Portland cement patching compound.
11. Never install Adura Max products over residual asphalt-Type (cut back) adhesive. Residual asphalt-type adhesive must be completely removed and covered with underlayment plywood or high-quality latex underlayment.
12. Do not install under permanent structure such as cabinets.
13. Adura Max locking system is designed to be installed as an angle/angle install only.